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- a flywheel stored within a canister; and
- a heat pipe having an evaporator and a condenser, the heat pipe being mounted
- 4 with the evaporator inside the canister and the condenser outside the canister; and
- 5 means for dissipating heat from the condenser of the heat pipe.

2. A system comprising:

a first heat pipe having an evaporator and a condenser, the first heat pipe being mounted with the evaporator inside the canister and the condenser outside the canister;

a second heat pipe having an evaporator thermally coupled to the condenser of the first heat pipe, the second heat pipe having a condenser; and

means for dissipating heat from the condenser of the second heat pipe.

3. A system comprising:

- a flywheel stored within a canister; and
- a heat pipe having an evaporator and a condenser, the heat pipe being mounted with the evaporator inside the canister and the condenser abutting a wall of the canister.

4. A system for cooling a canister, comprising:

- a first heat pipe having an evaporator and a condenser, the first heat pipe being mounted with the evaporator inside the canister and the condenser outside the canister;
- a second heat pipe having an evaporator thermally coupled to the condenser of the first heat pipe, the second heat pipe having a condenser;
- a third heat pipe having an evaporator thermally coupled to the condenser of the second heat pipe, the third heat pipe having a condenser; and

means for dissipating heat from the condenser of the third heat pipe.

- 5. The system of claim 4, wherein the canister is at least partially buried below
- 2 ground, and the first heat pipe is positioned entirely below a ground surface.

- 1 6. The system of claim 4, wherein the second heat pipe is partially buried below the
- 2 ground surface, and partly above the ground surface.
- 1 7. The system of claim 4, wherein the third heat pipe is completely above the ground
- 2 surface.
- 1 8. The system of claim 4, wherein the second heat pipe is a thermosyphon.
- 1 9. The system of claim 4, wherein the evaporator of the third heat pipe is oriented
- 2 substantially vertically, and the condenser of the third heat pipe is at a substantial angle
- 3 away from vertical.
- 1 10. The system of claim 9, wherein the angle of the condenser of the third heat pipe is 2 at least about 5 degrees from horizontal.
- The system of claim 4 wherein the first heat pipe is mounted to a motor housing
 - of a flywheel system within the canister.
- 1 12. The system of claim 11, wherein the first heat pipe is mounted within a block of
- 2 metal having a hole therethrough to receive the heat pipe, the block being mounted to the
- 3 flywheel system.
- 1 13. The system of claim 4, wherein the canister is a vacuum housing.
- 1 14. The system of claim 4, wherein the heat dissipating means including a plurality of
- 2 circular fins arranged in a fin stack.
- 1 15. The system of claim 4, wherein at least one of the heat pipes has a wick in the
- 2 evaporator thereof that does not extend into the condenser thereof.
- 1 16. The system of claim 4, wherein at least one of the heat pipes has a wick formed of
- 2 sintered metal.

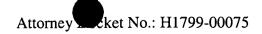
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- 1 17. \An energy storage system, comprising:
- 2 a canister;
- a an energy storage flywheel having a motor housing mounted inside the canister;
- a first heat pipe having an evaporator and a condenser, the evaporator of the first
- heat pipe being mounted to the motor housing, the condenser of the first heat pipe outside the canister;
- a second heat pipe having an evaporator conductively coupled to the condenser of the first heat pipe, the second heat pipe having a condenser;
 - a third heat pipe having an evaporator conductively coupled to the condenser of the second heat pipe, the third heat pipe having a condenser interfacing to a heat dissipating means.
 - 18. The system of claim 17, wherein the second heat pipe is a thermosyphon.
 - 19. The system of claim 17, wherein the evaporator of the third heat pipe is oriented substantially vertically, and the condenser of the third heat pipe is at a substantial angle away from vertical.
- 1 20. The system of claim 19, wherein the angle of the condenser of the third heat pipe 2 is at least about 5 degrees from horizontal.
- 1 21. The system of claim 17, wherein the canister is a vacuum housing.
- 1 22. The system of claim 17, wherein the heat dissipating means include circular fins
- 2 arranged in a fin stack.
- 1 23. The system of claim 17, wherein at least one of the heat pipes has a wick in the
- 2 evaporator thereof that does not extend into the condenser thereof.
- 1 24. The system of claim 17, wherein at least one of the heat pipes has a wick formed
- 2 of sintered metal.